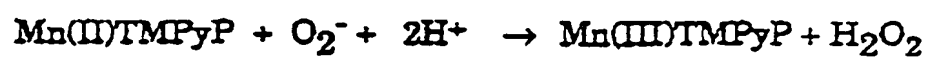
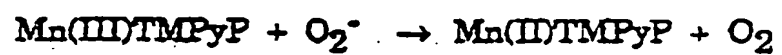


Figure 1

Mechanism



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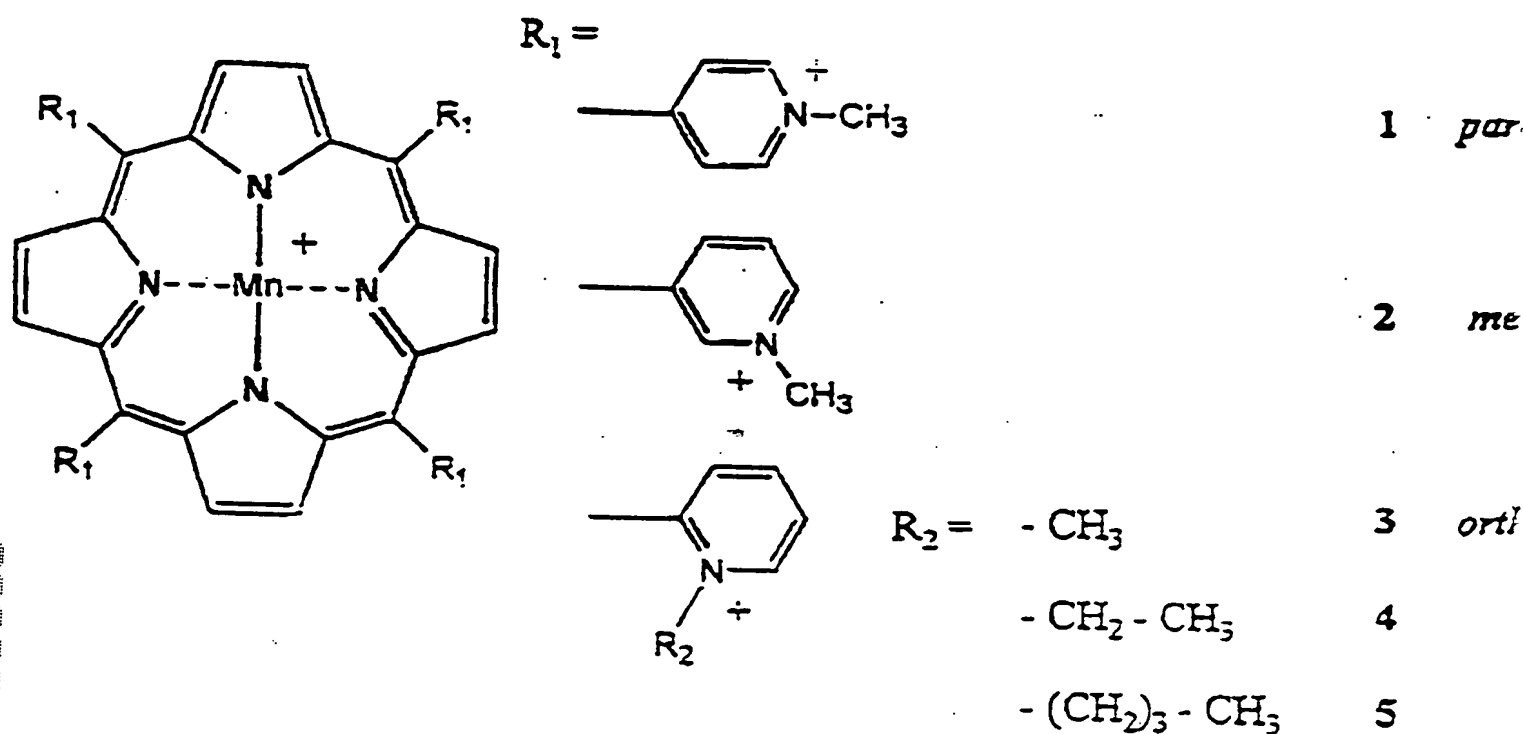
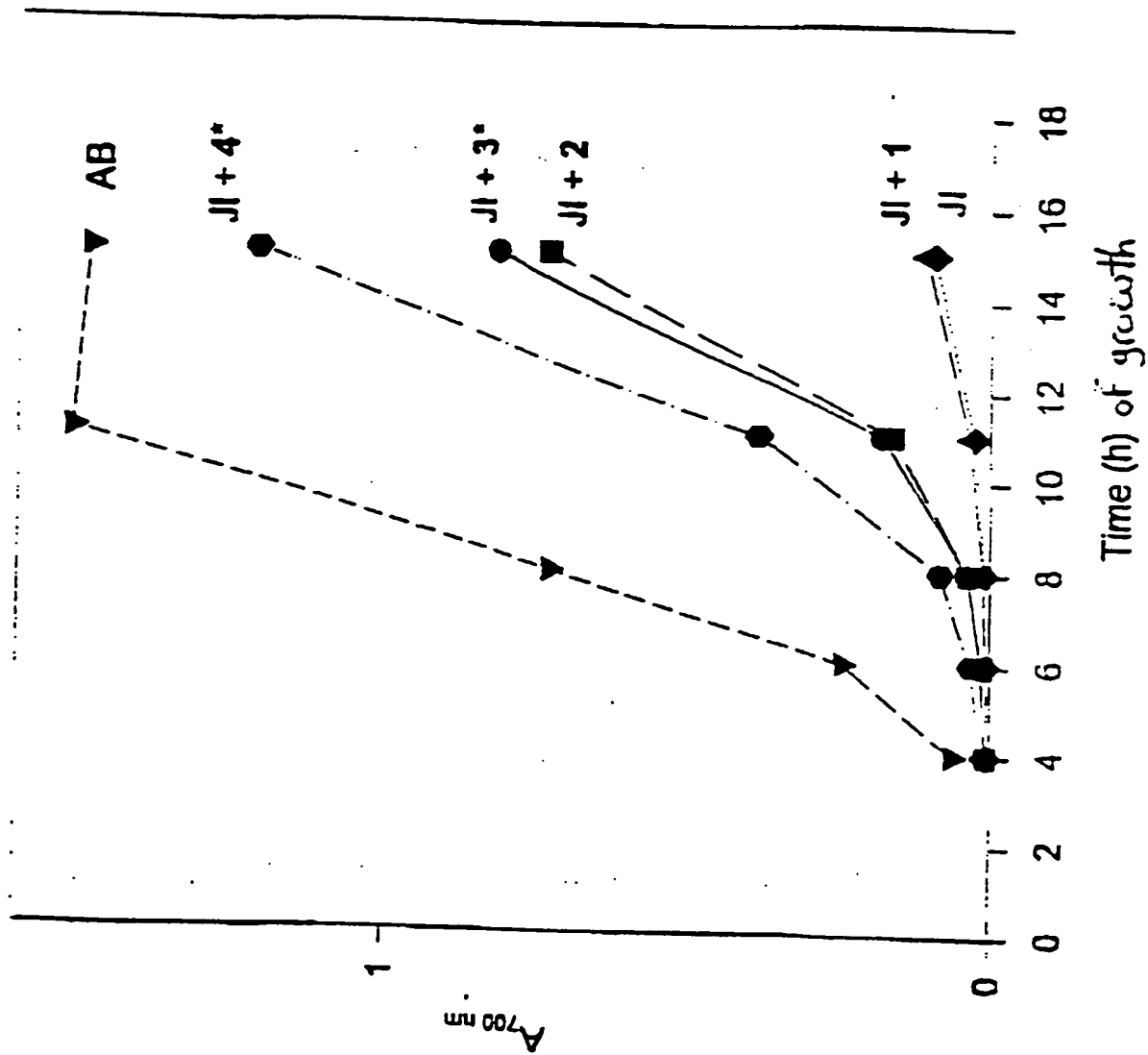


Figure 2. Manganese *meso*-tetraKis *N*-alkyl-pyridinium based porphyrin

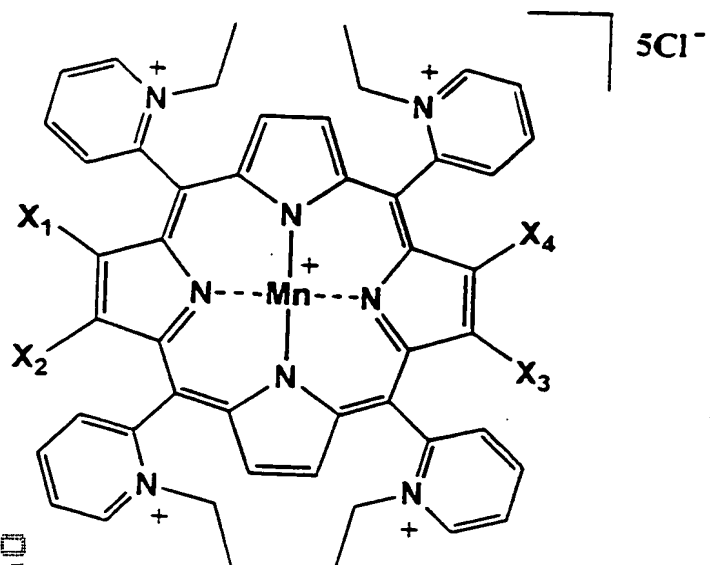


4 = ortho version

3 = methyl in *ortho* position
2 = methyl in *meta* position

1 = methyl in *para* position.

Figure 3 SOD activity in vivo (*E. coli*) of 1, 2, 3* and 4* (25 μ M) in minimal medium (*mixture of atropisomers, JI = SODs deficient strain, AB = parental strain).



MnTE-2-PyP⁵⁺

$X_1=X_2=X_3=X_4=H$

MnCl₁TE-2-PyP⁵⁺

$X_1=Cl, X_2=X_3=X_4=H$

MnCl₂TE-2-PyP⁵⁺

$X_1=X_2=Cl, X_3=X_4=H$

MnCl₃TE-2-PyP⁵⁺

$X_1=X_2=X_3=Cl, X_4=H$

MnCl₄TE-2-PyP⁵⁺

$X_1=X_2=X_3=X_4=Cl$

Figure 4

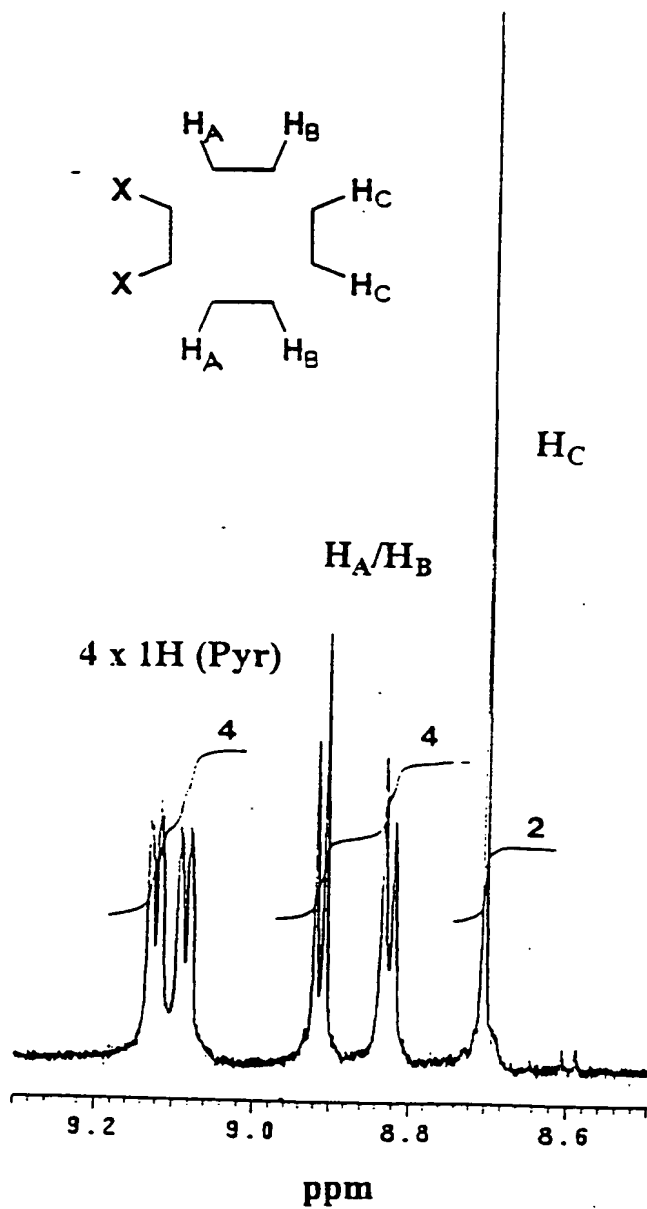


Figure 5

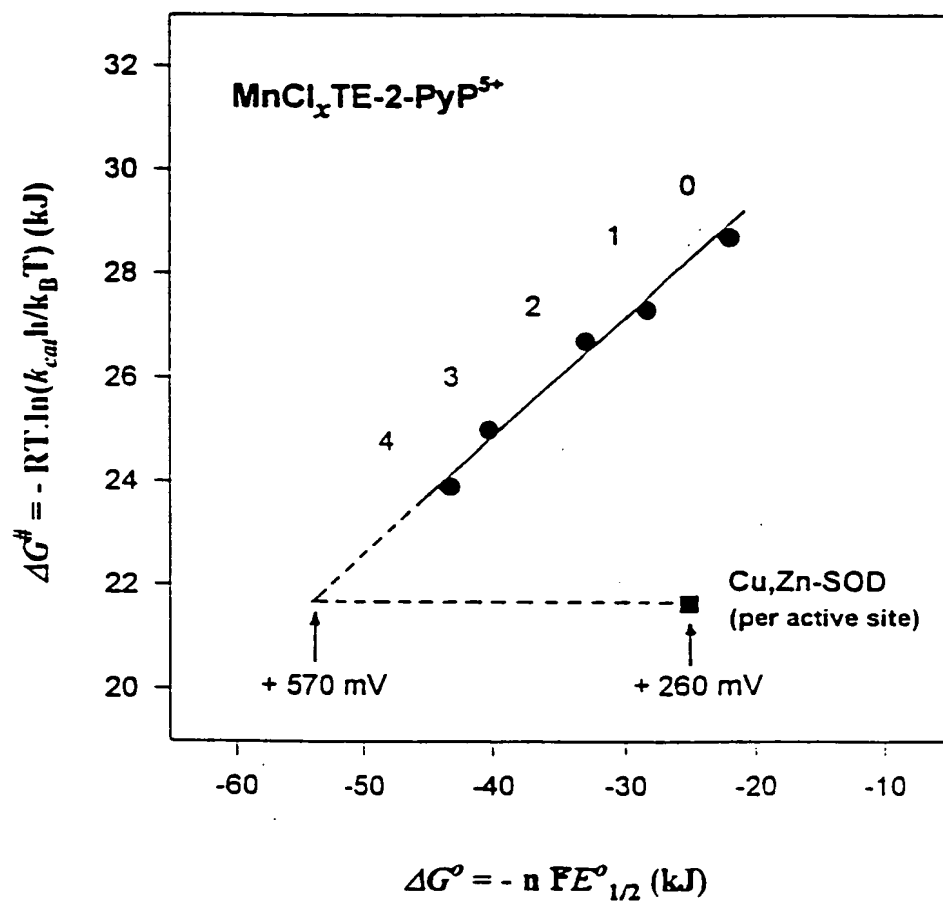
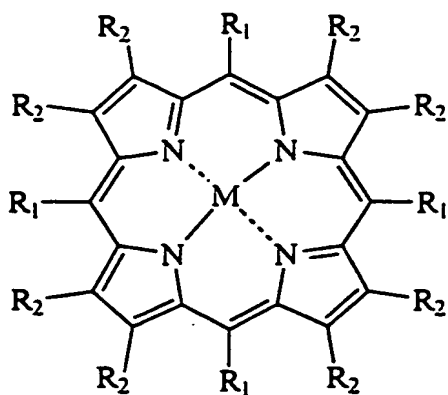


Figure 6

A

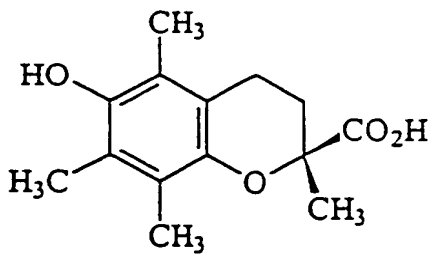


M = Mn^{2+/3}, Co^{2+/3}, Fe^{2+/3}, or Zn²⁺

R ₁	R ₂	
	H	[TBAP]
	H	[TM-4-PyP]
	Br	[OBTM-4-PyP]
	H	[TM-2-PyP]

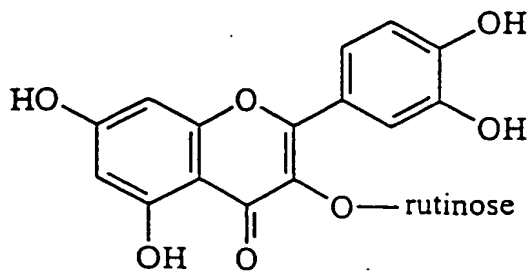
Metalloporphyrins

B



Trolox

C



(+)-Rutin

Figure 7

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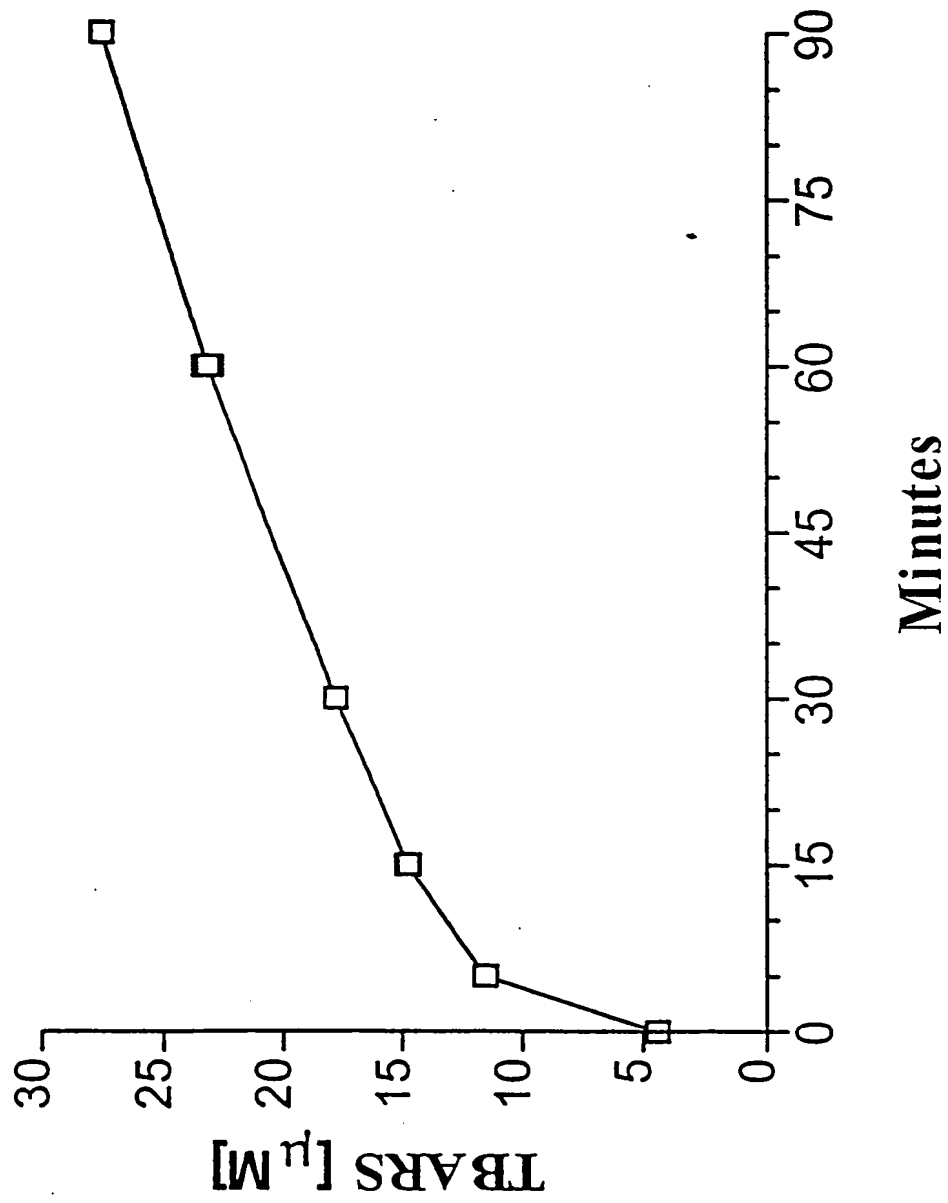


Figure 8

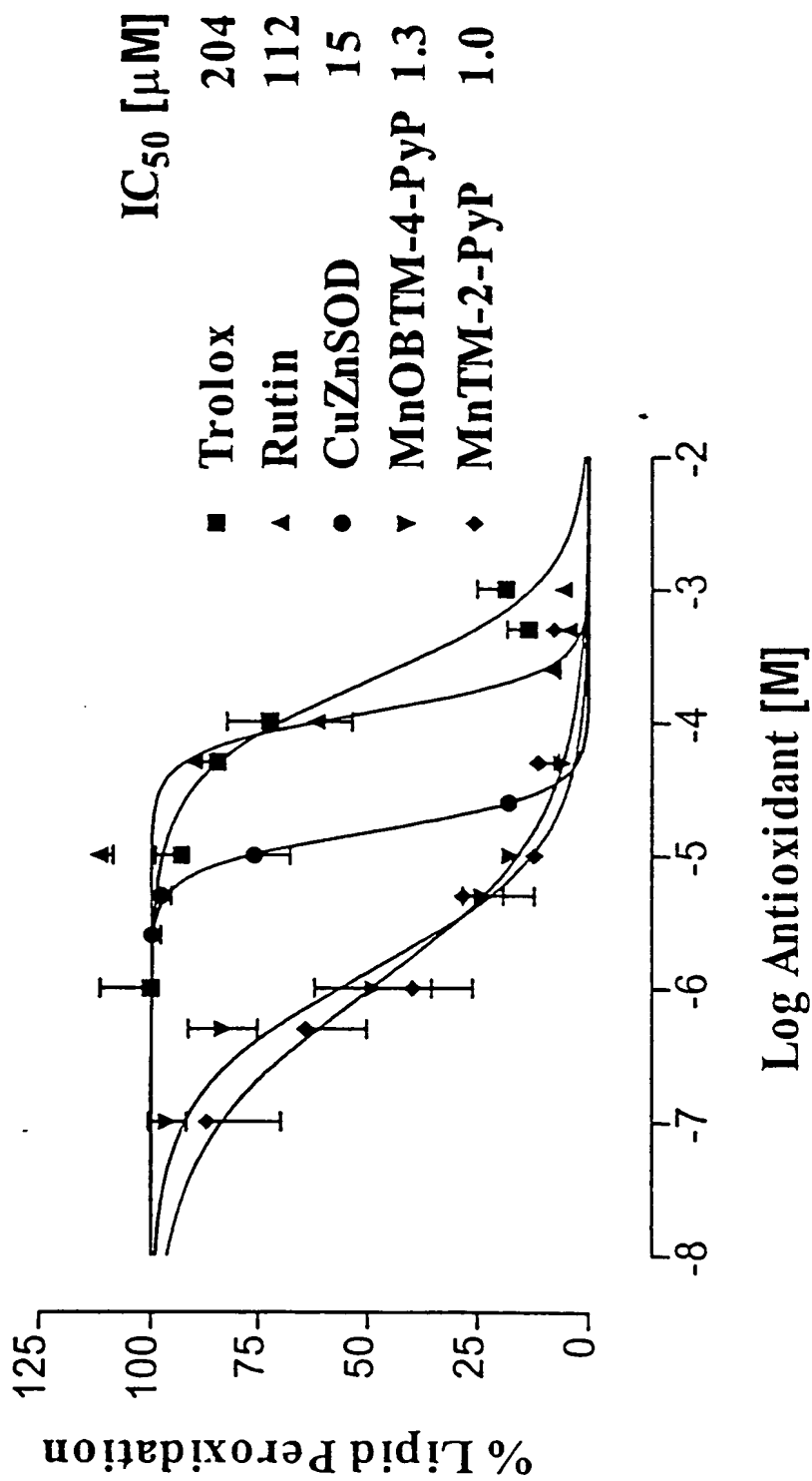


Figure 9

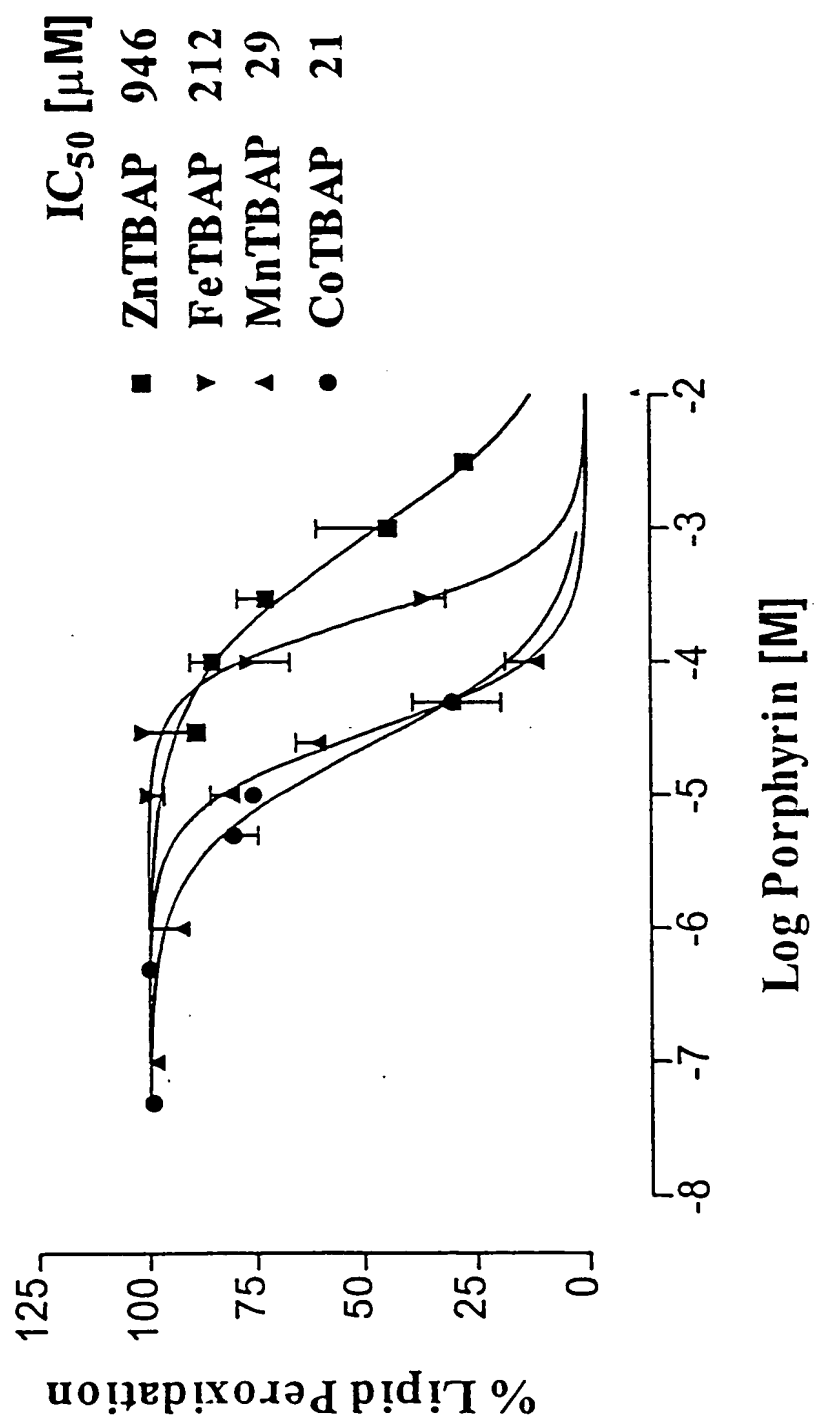


Figure 10

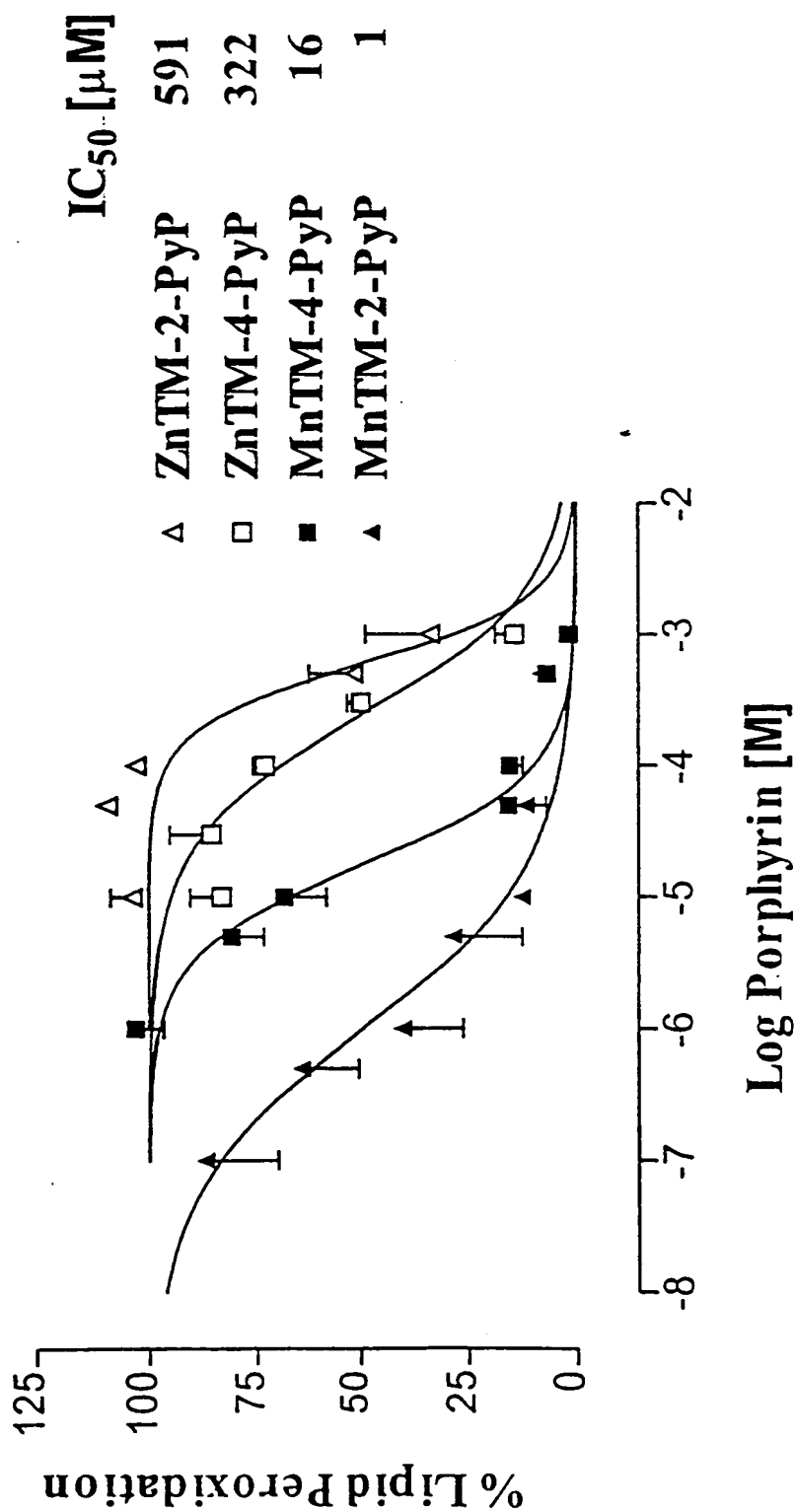


Figure 11